

**REMARKS**

This amendment responds to the Office Action dated August 20, 2007, in which the Examiner rejected claims 30-66 under 35 U.S.C. § 103.

As indicated above, claim 31 has been incorporated into claim 30, claim 35 has been incorporated into claim 34 and claim 46 has been incorporated into claim 45. The amendment is unrelated to a statutory requirement for patentability.

Claim 30 claims a communication system comprising first and second communication devices. The first communication device electrifies an electrification target having electrification properties by generating a quasi-electrostatic field modulated according to information to be sent. The second communication device detects change in electrification condition of the electrification target and demodulates the information based on the change. The electrification target is a human body.

Through the structure of the claimed invention, (a) electrifying a human body by generating a quasi-electrostatic field and (b) detecting a change in the electrification of a human body as claimed in claim 30, the claimed invention provides a communication system capable of enhancing a degree of freedom in communication. The prior art does not show, teach or suggest the invention as claimed in claim 30.

Claim 34 claims a communication device comprising an electric field generating electrode and a modulation means. The electric field generation electrode generates an electric field. The modulation means performs modulation according to information to be sent so that an electrification target is electrified by a quasi-electrostatic field out of the electric field generated from the electric field generation electrode. The modulation means outputs a modulated signal

resulting from the modulation to the electric field generation electrode. The electrification target is a human body.

By electrifying a human body with a quasi-electrostatic field and by performing modulation to electrify a human body, as claimed in claim 34, the claimed invention provides a communication device with enhanced degree of freedom in communication. The prior art does not show, teach or suggest the invention as claimed in claim 34.

Claim 45 claims a communication device comprising a detection means and a demodulation means. The detection means detects an electrification condition of an electrification target electrified by a quasi-electrostatic field out of an electric field based on a modulated signal obtained through modulation according to information to be sent. The demodulation means modulates the information based on change in the electrification condition detected by the detection means. The electrification target is a human body.

By (a) electrifying a human body with a quasi-electrostatic field, (b) detecting an electrification condition of the human body and (c) modulating the information based on a change in the electrification condition of the human body as claimed in claim 45, the claimed invention provides a communication device with enhanced communication freedom. The prior art does not show, teach or suggest the invention as claimed in claim 45.

Claim 65 claims an electrode manufacturing method of an electrode to be used in communicating a quasi-electrostatic field as an information communication medium. The method includes a first step of selecting an originating frequency and communication band for communication, a distance between electrodes and an electrode area of a sender parallel plane electrode to be used as the sender electrode and a distance between electrodes of a receiver

parallel plane electrode to be used as a receiver electrode. The second step includes determining a communication limit position between the sender parallel plane electrode and the receiver parallel plane electrode based on a matter selected in the first step. The third step includes determining whether potential exists through a strength induction field component of an electric field at the communication limit position determined in the second step is below a noise floor specified according to the communication band, when potential of the originating frequency is supplied to the sender parallel plane electrode.

By (a) selecting parameters, (b) determining a communication limit position and (c) determining whether a strength induction field component is below a noise floor, as claimed in claim 65, the claimed invention provides an electrode manufacturing method which enables stabilization communication. The prior art does not show, teach or suggest the invention as claimed in claim 65.

Claims 30-66 were rejected under 35 U.S.C. § 103 as being unpatentable over *Vega et al.* (U.S. Patent No. 6,275,681) in view of *Schynzel* (U.S. Patent No. 6,336,031).

*Vega et al.* appears to disclose excitation signal generated by exciter 201 has an AC voltage of  $V_e$  and electrostatically couples through capacitance 213 to the transceiver 102 causing a voltage  $V_{tag}$  to be present between the transceiver 102 and earth ground 107. The reader 101 can communicate to the transceiver 102 by using various modulation techniques with the excitation signal generated by the exciter 201 (Col. 5, lines 41-47).

Thus, *Vega et al.* only discloses an exciter 201 electrostatically couples through electrode 105 with transceiver 102. Nothing in *Vega et al.* shows, teaches or suggests (a) electrifying a human body with a quasi-electrostatic field and detecting a change in electrification condition of

the human body as claimed in claim 30, (b) electrifying a human body with a quasi-electrostatic field and performing modulation to electrify the human body as claimed in claim 34 and (c) electrifying a human body with a quasi-electrostatic field, detecting an electrification condition of the human body and modulating information based on a change in the electrification condition of the human body as claimed in claim 45. Rather, *Vega et al.* only discloses electrostatically coupling electrostatic electrode 105 with transceiver 102 (i.e. exciter 201 does not couple with human body 205, but couples electrode 105 with electrode 113).

Furthermore, *Vega et al.* only discloses that the human body 205 coupled to transceiver 102 through electrode 112 and is coupled to ground (Col. 5, lines 24-28). Nothing in *Vega et al.* shows, teaches or suggests (a) detecting a change in electrification of a human body as claimed in claims 30 and 45, (b) performing modulation to electrify a human body as claimed in claim 34 or (c) modulating information based on a change in electrification condition of the human body as claimed in claim 45. Finally, *Vega et al.* only discloses transceiver 102 has two electrostatic electrodes 112 and 103, and an impedance 216 (Col. 5, lines 35-38). Nothing in *Vega et al.* shows, teaches or suggests how to manufacture an electrode including the steps as claimed in claim 65. Applicant notes that the Examiner has not pointed out where in the reference the manufacturing method of an electrode has been provided. Applicant respectfully requests the Examiner point out specific sections of the reference showing the features claimed in claim 65.

*Schyndel* appears to disclose a short range wireless transmission of data (Col. 1, lines 6-7). A transmitter creates an electric scalar potential field with a time varying spatial gradient and a receiver is sensitive to the spatial gradient of this potential (Col. 2, lines 31-33). The receiver will sense the spatial gradient of the electric potential field by measuring the signal induced

between two or more electrodes separated by some distance. Alternatively, the receiver can measure the voltage induced between the received electrodes (Col. 2, lines 37-43). The receiver is built for receiving the tag transmitted by the transmitter. Receiver 100 includes a pair of received electrodes which are collectively called the received antenna 105 connected to a detector 125 (Col. 7, lines 20-27).

Thus, *Schyndel* discloses a transmitter and a receiver measuring voltage between electrodes. Nothing in *Schyndel* shows, teaches or suggests (a) electrifying a human body and detecting a change in the electrification condition of the human body as claimed in claim 30, (b) electrifying a human body and performing modulation to electrify a human body as claimed in claim 34 and (c) electrify a human body, detect an electrification condition of the human body and modulate information based on a change in electrification of the human body as claimed in claim 45. Rather, *Schyndel* only discloses a receiver having electrodes to measure the voltage induced there between.

Furthermore, while *Schyndel* discloses electrodes, nothing in *Schyndel* shows, teaches or suggests a method of manufacturing electrode including the steps as claimed in claim 65. Applicant respectfully requests the Examiner point out specific sections of the reference showing the features claimed in claim 65.

A combination of *Vega et al.* and *Schyndel* would merely suggest replacing the exciter 201 and transceiver 102 of *Vega et al.* with the transmitter and receiver of *Schyndel*. Thus, nothing in the combination of the references shows, teaches or suggests the features as claimed in claims 30, 34, 45 and 65 as discussed above. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 30, 34, 45 and 65 under 35 U.S.C. § 103.

Claim 32-33, 36-44, 47-64 and 66 depend from claims 30, 34, 45 and 65 and recite additional features. Applicant respectfully submits that claims 32-33, 36-44, 47-64 and 66 would not have been obvious within the meaning of 35 U.S.C. § 103 over *Vega et al.* and *Schyndel* at least for the reasons as set forth above. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 32-33, 36-44, 47-64 and 66 under 35 U.S.C. § 103.

The Applicants respectfully request the Examiner consider the Information Disclosure Statement filed October 12, 2007.

The prior art of record, which is not relied upon, is acknowledged. The references taken singularly or in combination do not anticipate or make obvious the claimed invention.

Thus, it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

**CONCLUSION**

If for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is requested to contact, by telephone, the Applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicant respectfully petitions for an appropriate extension of time. The fees for such extension of time may be charged to Deposit Account No. 50-0320.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 05-0320.

Respectfully submitted,

FROMMER LAWRENCE & HAUG LLP  
Attorneys for Applicant

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By: 

Ellen Marcie Emas  
Reg. No. 32,131  
Tel. (212) 588-0800